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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/415,920	10/12/1999	TOSHIHIRO NAGOSHI	5905.0035-01	5458

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
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EXAMINER	
YANG, RYAN R	

ART UNIT	PAPER NUMBER
2672	16

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/415,920	NAGOSHI ET AL.	
	Examiner	Art Unit	
	Ryan R Yang	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/27/2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15,17-23 and 28-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19,23,29-34 and 37* is/are allowed.

6)☒ Claim(s) *15,17-18,20-22,28,35-36,38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/30/2003 has been entered.

Examiner's statement in Office Action No. 14 on CPA is withdrawn due to error.

2. This action is responsive to communications: Amendment, filed on 2/25/2004. This action is final.

3. Claims 15, 17-23 and 28-38 are pending in this application. Claims 15, 19, 23, 28, 29, 33 and 38 are independent claims. In the Amendment, filed on 2/25/2004, claims 15, 17, 18, 20, 21, 28, 35 and 38 were amended.

4. This application is a divisional application of application No. 09/975,966 dated 11/21/1997.

This application claims foreign priority dated 11/22/1996.

5. The present title of the invention is "Game device, picture data forming method and medium" as filed originally.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 15, 17-18, 22 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. (US 6,329,991) in view of Mahler (4,233,631), and further in view of Priem et al. (US 5,237,650).

As per claim 15, Fukuda et al., hereinafter Fukuda, discloses a game device for displaying, as a picture, an object moving in accordance with developments of a game, said game device comprising:

means for calculating a present position of said object (Figure 3 105 "for detecting a contact position of the trace input pen 13 and inputting image data comprising a trace written by the pen as coordinate dot train", column 2, line 38-42); and

trace mark drawing means for drawing a trace mark in length within a predetermined range from said present position according to a movement of said object (Figure 3 13), said trace mark comprising a plurality of polygons and for gradually extinguishing said trace mark starting from a rear section of said trace mark by progressively making said rear section lighter in color and moving toward a front section of said trace mark with a lapse of time, wherein said polygons toward the rear of said trace mark disappear first ("brightness, which is one display attribute of the trace 21 which has already been drawn, is changed to a lower value", column 2, line 53-55, and Figure 7 54 where Brightness Q is a function of time t).

Fukuda discloses a game device for displaying a fading trace. It is noted that Fukuda does not explicitly disclose the trace is composed of a plurality of polygons,

however, this is known in the art as taught by Mahler. Mahler discloses a method of displaying and recording paths of motion in which an object in motion (a man, Figure 4, or a ball, column 5, line 19-20) fades out in the previous positions (column 5, line 9-66). As for the object, it is well in the art that a graphical object is made up of either points, lines, polygons or 3-D solid objects, therefore, it would have been obvious to one ordinary skill in the art to pick any one of the composing elements to generate an object.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mahler into Fukuda because Fukuda discloses a game device for displaying a fading trace and Mahler discloses the trace can be composed of polygons in order to improve visibility of the display.

Fukuda and Mahler disclose a game device for displaying a fading trace. It is further noted that Fukuda and Mahler do not explicitly disclose gradually extinguishing said trace mark from a rear section of each portion by progressively making said rear section of each portion light in color toward a front section of each portion, however, this is known in the art as taught by Priem et al., hereinafter Priem. Priem discloses a method of drawing depth cueing in which "the fading of the line in intensity gives the same effect as is given by images as they recede progressively further from the viewer" (column 4, line 2-5), and the means to trace the line could be an object (Figure 5) moving in a three-dimensional space (Figure 1 note the xyz coordinate).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Priem into Fukuda and Mahler because Fukuda and Mahler disclose a game device for displaying a fading trace and

Priem discloses the trace can fades gradually in a 3-D space in order to provide a depth cueing.

8. As per claim 17, Fukuda, Mahler and Priem demonstrated all the elements as applied to the rejected dependent claim 15, supra, and Fukuda further discloses a trace pattern assign to said plurality of polygons is previously stored as a pattern having different density in storage means (Figure 6 48 where the attributes of the traces are updated, so when the new trace is drawn the updated traces are previously stored pattern).

Fukuda discloses a game device for displaying a fading trace. It is noted that Fukuda does not explicitly disclose the trace is composed of a plurality of polygons, however, this is known in the art as taught by Mahler. Mahler discloses a method of displaying and recording paths of motion in which an object in motion (a man, Figure 4, or a ball, column 5, line 19-20) fades out in the previous positions (column 5, line 9-66). As for the object, it is well in the art that a graphical object is made up of either points, lines, polygons or 3-D solid objects, therefore, it would have been obvious to one ordinary skill in the art to pick any one of the composing elements to generate an object.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mahler into Fukuda because Fukuda discloses a game device for displaying a fading trace and Mahler discloses the trace can be composed of polygons in order to improve visibility of the display.

9. As per claim 18, Fukada, Mahler and Priem demonstrated all the elements as applied to the rejected dependent claim 17, supra, and Fukuda further discloses said

trace pattern assigned to said plurality of Polygons is obtained by changing the transparency of a basic trace pattern (Figure 7 54).

Fukuda discloses a game device for displaying a fading trace. It is noted that Fukuda does not explicitly disclose the trace is composed of a plurality of polygons, however, this is known in the art as taught by Mahler. Mahler discloses a method of displaying and recording paths of motion in which an object in motion (a man, Figure 4, or a ball, column 5, line 19-20) fades out in the previous positions (column 5, line 9-66). As for the object, it is well in the art that a graphical object is made up of either points, lines, polygons or 3-D solid objects, therefore, it would have been obvious to one ordinary skill in the art to pick any one of the composing elements to generate an object.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mahler into Fukuda because Fukuda discloses a game device for displaying a fading trace and Mahler discloses the trace can be composed of polygons in order to improve visibility of the display.

10. As per claim 22, Fukuda, Mahler and Priem demonstrated all the elements as applied to the rejected independent claim 15, supra, and Fukuda further discloses said trace mark drawing means deletes the drawn trace mark when said object stops and a predetermined time has passed (Figure 7 55 where Q is a function of time).

11. As per claim 38, Fukuda discloses a method of forming picture data for a game device for displaying, as a picture, an object moving in accordance with developments of a game, said method comprising:

calculating a present position of said object (Figure 3 105 "for detecting a contact position of the trace input pen 13 and inputting image data comprising a trace written by the pen as coordinate dot train", column 2, line 38-42); and

drawing a trace mark in length within a predetermined range from said present position according to the movements of said object (Figure 3 13), said trace mark comprising a plurality of polygons (Figure 5); and

gradually extinguishing said trace mark starting from a rear section of said trace mark by progressively making said rear section lighter in color and moving toward a front section of said trace mark with a lapse of time, wherein said polygons toward the rear of said trace mark disappear first ("brightness, which is one display attribute of the trace 21 which has already been drawn, is changed to a lower value", column 2, line 53-55, and Figure 7 54 where Brightness Q is a function of time t).

Fukuda discloses a game device for displaying a fading trace. It is noted that Fukuda does not explicitly disclose the trace is composed of a plurality of polygons, however, this is known in the art as taught by Mahler. Mahler discloses a method of displaying and recording paths of motion in which an object in motion (a man, Figure 4, or a ball, column 5, line 19-20) fades out in the previous positions (column 5, line 9-66). As for the object, it is well in the art that a graphical object is made up of either points, lines, polygons or 3-D solid objects, therefore, it would have been obvious to one ordinary skill in the art to pick any one of the composing elements to generate an object.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mahler into Fukuda because

Fukuda discloses a game device for displaying a fading trace and Mahler discloses the trace can be composed of polygons in order to improve visibility of the display.

Fukuda and Mahler disclose a method for displaying a fading trace. It is noted that Fukuda does not explicitly disclose gradually extinguishing said trace mark from a rear section of each portion by progressively making said rear section of each portion light in color toward a front section of each portion, however, this is known in the art as taught by Priem et al., hereinafter Priem. Priem discloses a method of drawing depth cueing in which "the fading of the line in intensity gives the same effect as is given by images as they recede progressively further from the viewer" (column 4, line 2-5), and the means to trace the line could be an object (Figure 5) moving in a three-dimensional space (Figure 1 note the xyz coordinate).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Priem into Fukuda and Mahler because Fukuda and Mahler disclose a method for displaying a fading trace and Priem discloses the trace can fades gradually in a 3-D space in order to provide a depth cueing.

12. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al., Mahler and Priem et al. as applied to claim 15 above, and further in view of Willan (EP 0367405).

As per claim 20, Fukuda, Mahler and Priem demonstrated all the elements as applied to the rejected claims 15, 17, or 18, supra.

Fukuda, Mahler and Priem teach generating trace mark that fades in time. It is noted that Fukuda, Mahler and Priem do not explicitly teach "said trace mark drawing means adjusts a timing to extinguish the drawn trace according to a moving speed of said object", however, this is known in the art as taught by Willan. Willan teaches a graphics input system in which the "shape, width, density, texture and colour of the resultant visual effect" were determined due to velocity, acceleration or higher derivatives (column 1, line 45- column 2, line 3).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporated the teaching of Willan into Fukada, Mahler and Priem because Fukada, Mahler and Preim teach a fading trace mark and Willan teaches the trace could be affected by the drawing speed in order to make the trace visually more effective (column 2, line 3).

13. As per claim 21, Fukuda, Mahler and Priem demonstrated all the elements as applied to the rejected claim 20, supra.

Fukuda, Mahler and Priem teach generating trace mark that fades in time. It is noted that Fukuda, Mahler and Priem do not explicitly teach "said trace mark drawing means does not extinguish the drawn trace mark when said object stands still, while said trace mark drawing means extinguishes the drawn trace mark at a speed according to a moving speed of said object when said object is moving", however, this is known in the art as taught by Willan. Willan teaches a graphics input system in which the "shape, width, density, texture and colour of the resultant visual effect" were determined due to velocity, acceleration or higher derivatives (column 1, line 45-

column 2, line 3). Since the shape, width, density, texture and colour are dependent on the velocity or acceleration of the input, when the velocity and acceleration does not change, the shape, width, density, texture and colour does not change.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporated the teaching of Willan into Fukada, Mahler and Priem because Fukada, Mahler and Preim teach a fading trace mark and Willan teaches the trace could be affected by the drawing speed in order to make the trace visually more effective (column 2, line 3).

14. Claims 28, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Priem et al. (5,237,650) in view of Mahler and Fukuda et al. (6,329,991), and further in view of Gengler et al. (5,260,695).

As per claim 28, Priem discloses a game device for displaying, as a picture, an object moving in a virtual space in accordance with developments of a game, said game device comprising:

processing (Figure 7 74) and displaying means (Figure 7 80) for processing and displaying a trace mark according to said object moving virtually in a three-dimensional virtual space during the processing of said game, and a past trace mark (Figure 1), said trace mark comprising a plurality of polygons, and for gradually extinguishing said trace mark starting from a rear section of said trace mark by progressively making said rear section lighter in color and moving toward a front section of said trace mark with a lapse of time, wherein said polygons toward the rear of said trace mark disappear first ("the

fading of the line in intensity gives the same effect as is given by images as they recede progressively further from the viewer" (column 4, line 2-5).

Priem discloses a game device for displaying a fading trace. It is noted that Priem does not explicitly disclose the trace is composed of a plurality of polygons, however, this is known in the art as taught by Mahler. Mahler discloses a method of displaying and recording paths of motion in which an object in motion (a man, Figure 4, or a ball, column 5, line 19-20) fades out in the previous positions (column 5, line 9-66).
As for the object, it is well in the art that a graphical object is made up of either points, lines, polygons or 3-D solid objects, therefore, it would have been obvious to one ordinary skill in the art to pick any one of the composing elements to generate an object.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Mahler into Priem because Priem discloses a game device for displaying a fading trace and Mahler discloses the trace can be composed of polygons in order to improve visibility of the display.

Priem and Mahler disclose a device for displaying a trace in 3-D. It is noted that Priem and Mahler do not explicitly disclose the trace fades with lapse of time, however, this is known in the art as taught by Fukuda. Fukuda discloses a display device in which the trace fades as a function of time (Figure 7 54 where Brightness Q is a function of time t).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Fukuda into Priem and Mahler

because Priem and Mahler disclose a device for displaying a trace in 3-D and Fukuda disclose the trace could fades in time in order to distinguish it from older trace.

Priem, Mahler and Fukuda teach generating trace mark that fades in time. It is noted that Priem, Mahler and Fukuda do not explicitly teach "first storage means for storing said trace mark after said game ends; and read out means for reading from said first storage means said trace mark that is stored in the first storage means before a beginning of said game and for providing said trace mark as said past trace mark to said processing and displaying means", however, this is known in the art as taught by Gengler et al., hereinafter Gengler. Gengler discloses an image fader system in which fading images are stored and displayed (Figure 2 202).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Gengler into Priem, Mahler and Fukuda because Priem, Mahler and Fukuda discloses a method of generating trace mark that fades in time and Gengler discloses the fading images can be stored and re-displayed in order to improve its processing speed.

15. As per claim 35, Priem, Mahler, Fukuda and Gengler demonstrated all the elements as applied to the rejection of independent claim 28, supra, and Fukuda further discloses said processing and display means comprises:

means for reading a present position of said object (Figure 3 105); and

trace mark drawing means for drawing the trace mark in length within a predetermined range from the present position (Figure 3 13) and for extinguishing a bottom position of said trace mark by making it gradually lighter in color with a lapse of

time ("brightness, which is one display attribute of the trace 21 which has already been drawn, is changed to a lower value", column 2, line 53-55).

16. As per claim 36, Priem, Mahler, Fukuda and Gengler demonstrated all the elements as applied to the rejection of independent claims 15, 17-18 or 28, supra, and Fukuda further discloses a medium with a program stored thereon, the program for making a computer system function as a game device according to any one of claims 15, 17-18, or 28-35 (Figure 3 102).

Allowable Subject Matter

17. Claims 19, 23, 29-34 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

18. Applicant's arguments with respect to claims 15, 28 and 38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ryan Yang** whose telephone number is **(703) 308-6133**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Razavi**, can be reached at **(703) 305-4713**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-47000377.

Ryan Yang
April 27, 2004

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600